

STATUS AND DISTRIBUTION OF THE WHITE-NAPED TIT *PARUS NUCHALIS* IN GUJARAT AND RAJASTHAN¹

J.K. TIWARI²

Key words: White-naped tit, *Parus nuchalis*, status, endangered, Rajasthan, Gujarat, India

This paper describes the status and distribution of the white-naped tit *Parus nuchalis* in Gujarat and Rajasthan. Results are drawn from surveys carried out in seven districts of Rajasthan and three districts of Gujarat. Habitat loss is described in detail. It is established that the grey tit *Parus major* and white-naped tit *P. nuchalis* are not mutually exclusive. Conservation measures to save the habitat of the endangered white-naped tit are also discussed.

INTRODUCTION

The white-naped tit *Parus nuchalis*, also known as the white-winged tit or white-winged black tit, is an endemic species in India with a disjunct and restricted range (Ali and Ripley 1987). It is known as *Kabri ramchakli* in Gujarati. Hussain *et al.* (1992), and Tiwari and Rahmani (1996) have described its recent distribution. Nesting and roosting behaviour of the species were studied while I was working with the Bombay Natural History Society on the Grassland Ecology Project, funded by the U.S. Fish & Wildlife Service.

Not much is known about the white-naped tit. It was, therefore, necessary to investigate its present range of distribution to make a conservation action plan. This species has a limited geographic range, due to habitat destruction and invasion of exotic weeds into the thorn forest. The white-naped tit is on the checklist of threatened birds by Collar and Andrew (1988). Its patchy distribution in southern India may be due to fragmentation of scrub forest habitat by human interference. The current status surveys were carried out in Kutch, Palanpur (Banaskantha district), Taranga hills (Mehsana district), Gujarat and seven districts

of Rajasthan namely Pali, Jodhpur, Jalore, Sirohi, Ajmer, Jaipur and Nagaur. Short visits were also made to Jaisalmer, Barmer, Dausa and Bharatpur districts, to check the occurrence of the white-naped tit, but these trips were unsuccessful.

METHODS

Several birdwatchers in Rajasthan and Gujarat were contacted and information gathered. Literature and maps were collected from various sources. The habitat of the white-naped tit, tropical thorn forests, was scanned with local assistants and birdwatchers.

RESULTS

Gujarat survey

Kutch district: A major part of the Kutch district is still covered with tropical thorn forest, especially near Dhinodhar, Dayapar, Moti-Virani, Piyoni, Matano Madh, Khadir and Gugriana, where white-naped tits were sighted. These tits are common in Kutch district, wherever a healthy thorn forest cover (locally known as Rakhal = Reserve forest) is available. Detailed studies were started from January 1990, around Fulay-Chhari; surveys were conducted in the thorn forests of Kutch (Tiwari and Rahmani 1996). During drought years, the tits were observed in vegetation covered stream beds and irrigated crop fields. This may have exposed the

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²Assistant Manager, Wildlife and Environment, Sanghi Cements, Sanghipuram, Abdasa, Kutch, Gujarat 370 655, India.

Present address: Seawater Farms Eritrea, P.O. Box 406, Massawa, Eritrea, East Africa.

endangered tit to pesticides. The white-naped tit is patchily found in almost the entire Kutch, but is common nowhere. It prefers thorn forests with dead and decaying trees for roosting and nesting. The nest is located in holes prepared by the Mahratta woodpecker *Picoides mahrattensis*.

North Gujarat Survey

Banaskantha: Four white-naped tits were seen in the Balaram Reserve Forest and Jethi village near Palanpur city, north Gujarat, in May 1996. Balaram is located in the lush green Aravali hills. Banaskantha district was surveyed from 9 to 11 March, 1996, and a detailed survey was also carried out with S.N. Varu from 19 to 23 May, 1996. North Gujarat is dominated by dry deciduous forest. A 1,625 sq. km reserved forest area exists in Banaskantha district. The major protected areas lie in Baludhara, Jessore Sloth Bear Sanctuary, Balaram Reserve Forest and Ambaji Range Reserve Forest. *Acacia leucophloea* and *Acacia nilotica* trees, which are preferred by white-naped tits, grow along with *Butea monosperma*, *Anogeissus*, *Moringa*, *Terminalia* and *Carrisa*. Chitrasani is the nearest village where two white-naped tits were seen in a mixed flock of grey tit *Parus major*, small minivet *Pericrocotus cinnamomeus*, and white-eye *Zosterops palpebrosa*.

On September 11, 1996, two white-naped tits were observed in an *Acacia nilotica* plantation at Jethi railway station in Banaskantha. Jethi village is about 15 km away from Balaram forest. River Jethi flows through the Balaram forest and supports a healthy, dry deciduous and tropical thorn forest habitat, with some undulating grassland, on the slopes of Aravalli hills. These are ideal habitats for the green munia *Estrilda formosa* and white-naped tit.

The distance between Deesa and Abu Road is 80 km. White-naped tits were spotted in the scattered thorn forest of Beawar (Pali district, Rajasthan), which is 370 kms away from Deesa.

Forest fragmentation is evident, as several villages and towns are located here. Deforestation is mainly due to lopping of trees to feed cattle, and clearance of thorn forest for agriculture and residential areas. No white-naped tits were seen in Deesa and its vicinity, but they may occur in these areas in sites like Khera and Auwa where the thorn forest is healthy and relatively less disturbed. Sálím Ali had collected white-naped tits from Deesa on January 10, 1931.

Mehsana district: It occupies 9,027 sq. km in Gujarat. R.M. Simmons had sighted white-naped tits in July 1931, and again in February 1932 (Collar and Andrew 1988), at Taranga hills. S.N. Varu and I had surveyed the Taranga hills on May 21, 1996, but failed to spot any tits. However, the habitat is suitable, and they can occur. The following areas were surveyed on the way to Taranga hills: Netra, Thur hills, Dhori, Hantawada, Mumnavas, Punjpur, Aderan and Vijaran on State Highway No. 56, at Vijaran village. Several stone crushers and stone quarrying were observed; these take a heavy toll of the healthy tropical thorn forest. Taranga lies in the heart of the tropical thorn forest, which is protected by the people for religious reasons, making them a good habitat for wildlife. Two species, yellowthroated sparrow *Petronia xanthocollis* and brahmīny myna *Sturnus pagodarum*, which compete with the white-naped tits, were sighted here.

Rajasthan survey

Pali district: This district was surveyed from 15 to 20 March, and again from 4 to 9 October, 1996. White-naped tits were seen at Bar village and in Sendra Reserve Forest on the Pali-Ajmer border, on October 7, 1996.

Important areas for the white-naped tit are near Beawar, Bar, Sendra and Amarpura to Ajmer which bear patches of tropical thorn forest. The *Acacia leucophloea* forest is fragmented by several small to large villages and croplands with

the exotic mesquite or native *Acacia* forest. Several places in these hills, e.g. areas from Haripura to Bar are subjected to gypsum mining.

The forest from Bar (425.8 m) to Sendra (473.08 m) is ideal for white-naped tit. On Oct. 7, 1996 two of them were observed in the Bar village forest, one of which was feeding on a caterpillar. From their calls and yellow gape, they appeared to be one year old juveniles. In the evening, two were seen near Sendra village in a reserve forest. *P. nuchalis* is likely to occur in the following reserve forest areas of Sendra forest range.

Reserve Forest	Areas
1. Chang Block	1,161 ha
2. Borvad	989 ha
3. Deepavas	411 ha
4. Kalab Wildlife Range	2,035 ha
5. Kuneja Wildlife Range	1,373 ha
6. Majevela	345 ha
7. Bar	90 ha
8. Giri	212 ha
9. Salarmal	187 ha
10. Suniel	502 ha
11. Kala Dunger	40 ha
12. Babra	260 ha
13. Birathia Modu	102 ha
14. Kal Lambia Jod*	1,308 ha
15. Aserlai Jod*	416 ha
16. Ras	335 ha
17. Bavra closure	89 ha
18. Birathia Adi-dang	114 ha

Jod* = Grassland

Prosopis juliflora is a major problem in the forest plantation and in the grassland, which is locally known as beed.

Jalore district: It was surveyed on March 18-19, 1996 and October 3-5, 1996. Two white-naped tits were seen near Sunda-mata hill, which is in good condition, on October 4, 1996.

Ali (1987) described the white-naped and the grey tit as mutually exclusive. Except in the Kutch district, I have seen both these tits in the same patch of forest in many areas. R.M. Adam (1873) had obtained specimens of the grey tit and white-naped tit from the same patch of forest at Maroth in Nagaur district. This was confirmed

during the survey of Maroth, where I saw white-naped and grey tits in the same forest patch, at the following places:

1. Balaram and Jethi forest of Banaskantha, North Gujarat.
2. Sunda-mata hill, Jalore.
3. Maroth, Nagaur district.
4. Sambhar, Jaipur district.

Sirohi district: No white-naped tit was seen in the Sirohi district, which is barren and desolate in some parts, and extensively cultivated in others, with a variety of crops. The Aravalli range dissects this district. Recently spread exotics like *Prosopis juliflora*, *Cassia tora*, and *Lantana camara* are causing severe damage to the natural ecosystems of the Aravalli range and plains in Sirohi.

Mount Abu: The Abu hills were scanned for bird life in the first week of October 1996. Grey tits *Parus major* and yellowcheeked tits *P. xanthogenys* were seen in many areas, but white-naped tits were not seen on the Aravalli hills of the Abu range. Perhaps they do not ascend to that altitude (1,371 m) as other Paridae. Yellowcheeked tits were seen, on Adhar Devi areas, on October 2, 1996.

Jodhpur district: No white-naped tits were spotted in this desert district of Rajasthan. There is hardly any dense, tropical thorn forest in this area, except for a few isolated pockets, such as Machia Safari Park, Jodhpur and Har ki Bhakri near Luni. There are scattered *Acacia* trees in agricultural fields, but no *Acacia leucophloea* and *A. nilotica* forests were seen.

Jaipur district: It was surveyed from September 11 to 12 and October 8 to 10, 1996. On October 9, 1996, two white-naped tits were seen in an *Acacia nilotica* and *A. leucophloea* mixed forest at Nasia (Old fort) near Kanota, 11 km away from Jaipur city. A very good plantation of *Acacia* forest can be seen on the hills near Nasia. There is a huge patch of exclusive *Acacia leucophloea* forest beyond Nasia towards Dudu. Good stands of *Acacia* trees

can be seen in the agricultural fields. The hills beyond Kanota are devoid of tree cover. Spear grasses were present on the bare hills. About fifty camel cartloads of wood a day are brought from the villages, to sell in Jaipur. Stone quarrying was going on in the immediate vicinity of the white-naped tit habitat at Kanoda on National Highway No. 11. The pressure on the existing habitat of the white-naped tit is evident. The species was reported from Jaipur district, by Santanu Kumar Singh at Banjar Bhumi near Jaipur in 1993 (*pers. comm.*).

Sambhar Lake City and environs

Sambhar lake: (26° 53' N, 74° 54'-75° 14' E) is the largest inland saline lake in India. The areas around Sambhar lake were surveyed on October 8 and 9, 1996. Jhapok and Guda areas were surveyed for the white-naped, but none were seen. The Devyani areas were surveyed on foot. Impenetrable thickets of *Prosopis juliflora* were seen on the periphery of the lake and its environs.

Nagore district: This district was surveyed on October 9, 1996. Six white-naped tits were seen in three different areas. Two each in Maroth, Panchotia near Nava Town, and Sambhar Saltworks reserve. The Sambhar forest (10 sq. km) is privately maintained by the Sambhar Saltworks authorities. It is about 4 km away from the Nava town of Nagore district. This patch of original *Acacia leucophloea* forest is at present under serious threat, due to tree cutting by the villagers. Two guards are appointed to look after this forest. Cattle grazing and lopping of trees was noticed. If not protected, this small forest tract, which still supports the endangered white-naped tit will soon disappear. R.M. Adam had collected the white-naped tit in Maroth, in 1873.

Ajmer survey

Ajmer is 482 m above msl. The white-naped tit survives in some isolated pockets of the tropical thorn forests in Ajmer district.

Apart from the present sight records from the Sendra area, other birdwatchers such as Harkirat Sanga have seen *Parus nuchalis* in at least three places, in Ajmer district (Table 1).

TABLE 1
SIGHT RECORDS OF *PARUS NUCHALIS*
FROM AJMER DISTRICT, RAJASTHAN

Date	Place	Nos. sighted	Sighted by
October 7, 1996	Sendra Reserve Forest	2	J. K. Tiwari
October 14, 1996	Kishangarh	2	J. K. Tiwari
April 7, 1994	Ravli Todgarh	1	Harkirat Sanga
May 14, 1995	Nasirabad	2	Harkirat Sanga
January 20, 1996	Near Ramsar, Ajmer	1	Harkirat Sanga

The hills near Ajmer city are extensively planted with *Prosopis juliflora*. Sendra Reserve Forest near Beawar, and the entire hill range in Beawar is home to the white-naped tit. Depending on the habitat, the tits are sparsely distributed in Beawar and Sendra hills. The forested areas near Sendra, Beawar and Kishangarh should be protected by the Forest Department. Deforestation and overgrazing are two major problems in these areas.

CONSERVATION

Observations on the status of the white-naped tit in Kutch, north Gujarat, and Rajasthan indicate that the survival of this endemic species is dependent on the conservation of the tropical thorn forest and protection of dead and decaying *Acacia* trees. The main causes of deforestation in Gujarat and Rajasthan are illegal charcoal making, gathering fuel wood, invasion by exotic plants and many forest bird species like white-bellied minivet (*Pericrocotus erythropygus*) into the tit habitat. Exotics like *Prosopis juliflora* and *Lantana camara* should be eradicated by allowing people to use them as

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TABLE 2
SIGHTINGS OF THE WHITE-NAPED TIT IN GUJARAT AND RAJASTHAN

Date	Numbers	Place	Sighted by
May 14, 1994	1	Ravli Todgarh, Ajmer	Harkirat Sanga
April 7, 1994	2	Nasirabad, Ajmer	Harkirat Sanga
January 20, 1996	1	Ramsar, Ajmer	Harkirat Sanga
May 20, 1996	1	Balaram, north Gujarat	J.K.Tiwari & S.N.Varu
September 11, 1996	2	Jethi	J.K.Tiwari
October 4, 1996	2	Sunda-mata, Jalore	J.K.Tiwari
October 7, 1996	2	Bar, Pali district	J.K.Tiwari
October 7, 1996	2	Sendra, Ajmer district	J.K.Tiwari
October 9, 1996	2	Maroth, Nagore district	J.K.Tiwari
October 9, 1996	2	Panchota hill, Nagore district	J.K.Tiwari
October 9, 1996	2	Sambhar Saltworks, Jaipur district	J.K.Tiwari
October 9, 1996	2	Kanota, Nasia, Jaipur	J.K.Tiwari
October 14, 1996	2	Kishangarh, Ajmer district	J.K.Tiwari

fuel wood and for charcoal making under the strict supervision of the Forest Department and with the help of the village headmen.

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